Science Discovers the Physiological Value of Continence – Part 1

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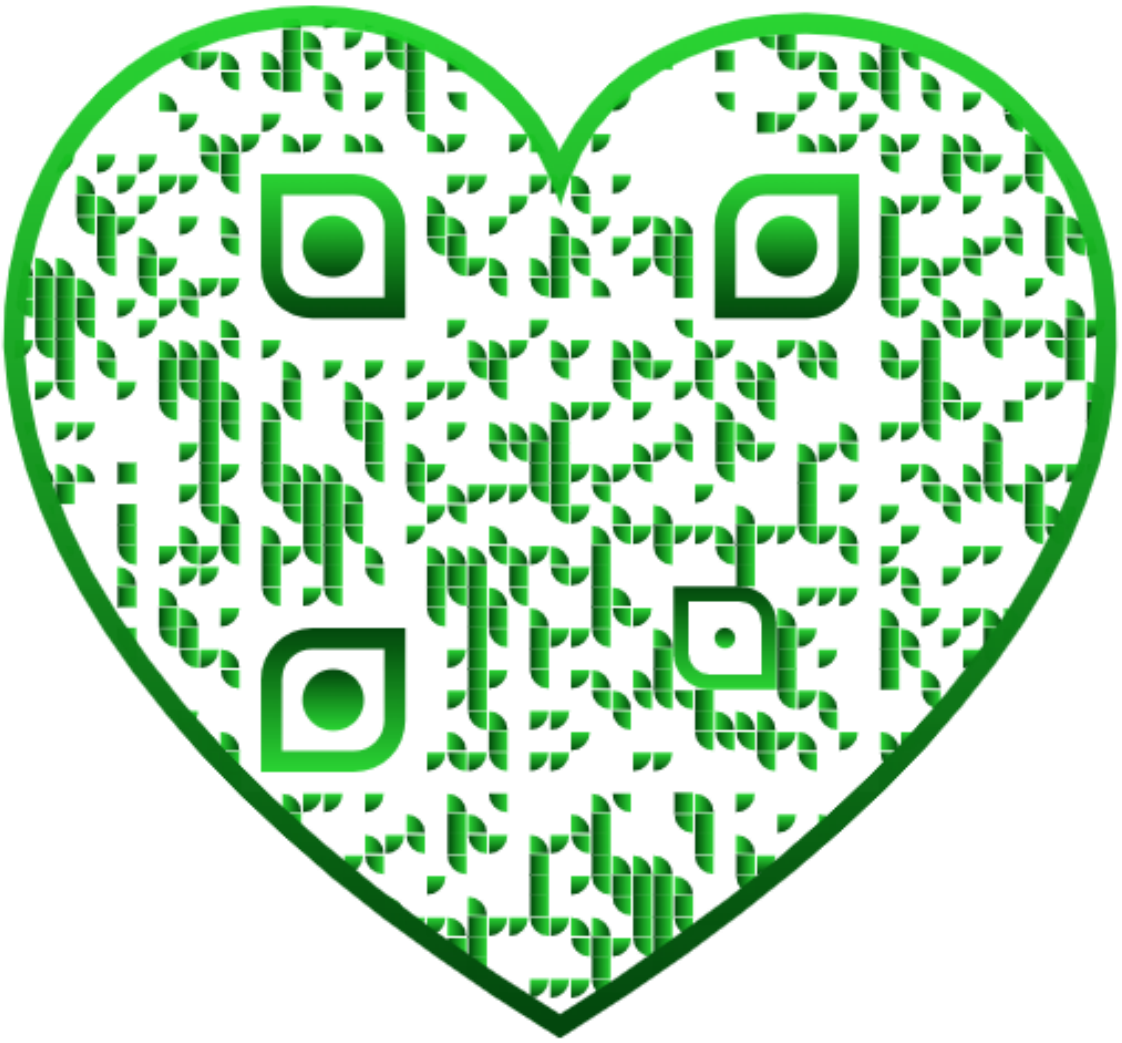
An opinion has gained ground in modern times, not only among the general public, but also among physicians, that the belief in the physiological value of continence belongs to the dark ages of religious superstitions and scientific ignorance, and is incompatible with physiological knowledge. Certain pseudosexologists, have exploited this idea to their commercial advantage and have created in the public mind a phobia in regards to continence, which is regarded as a cause of nervous and mental diseases and a positive health danger. On the basis of this belief, physicians and psychoanalysts have looked on continence for the cause of the nervous ailments of youth and have advised young men to visit prostitutes and risk venereal infection as a lesser evil than the assumed hazards of abstinence.

A careful reading should, however, convince any open-minded reader that the above view is false, and that continence per se can never do harm, but is always beneficial; and that when trouble occurs in an individual not practicing normal sex relations, the fault is not continence but some vicarious means of sex expression, excessive nocturnal emissions, etc. In view of the richness of the semen in lecithin, cholesterol, phosphorus and other constituents of nervous and brain tissue it is clear that it is incontinence, or loss of these valuable nerve- nourishing substances which, by promoting undernutrition, is responsible for disturbed functioning of the nervous system and brain, and never true continence, contrary to the unscientific views of the psychoanalysts.

We have seen that the internal secretions of the sex glands stand at the basis of the individual's physical and mental vitality and that sex hormones are present in the external as well as in the internal secretions of the gonads. Many of the effects attributed to such hormones, as we have seen, are due to the physiological effect of resorbed semen. Conservation of semen means conservation of sex hormones and increased vigor, while loss of semen means loss of hormones and diminished vitality; also chronic deficiency of such hormones leads to the symptoms of senility, which Voronoff and Steinach strove to overcome by increasing the amount of sex hormones in the blood.

The semen is a viscid albuminous fluid, alkaline in reaction, which is very rich in calcium and phosphorus, also in lecithin, cholesterol, albumen, nucleoproteins, iron, vitamin E, etc. In the ejaculation of the normal man, about 226 million spermatozoa are given off; these are rich in phosphorized fats (lecithin), cholesterol (the parent-source of sex hormones), nucleoproteins and iron. An ounce of semen is considered to be equal in value to sixty ounces of blood, of which it constitutes an extract of some of its most valuable of constituents, as far as its vitalizing power is



concerned. Dr. Frederick McCann remarks on this point, "From what has been stated it must be admitted that the spermatic fluid does possess potentialities justifying the belief of ancient writers concerning its vital properties.

The semen contains substances of high physiological value, especially in relation to the nutrition of the brain and nervous system. If resorption of semen through the wall of the female genital tract has a vitalizing effect on the female organism, the same should be the case in the body of the male in which it is formed and conserved. And conversely, loss of semen must deprive the organism of vitality and valuable substances necessary for the nutrition of nervous tissue, such as lecithin, which has been used therapeutically with great success for the cure of neurasthenia resulting from sexual excess.

The following are among the many physiological evidences which demonstrate the value of continence: 1. There is a remarkable similarity of chemical composition between the semen and the central nervous system, both being especially rich in lecithin, cholesterin and phosphorus compounds, which would indicate that seminal emissions withdraw from the body substances necessary for the nutrition of nervous tissues. 2. Excessive voluntary seminal losses (through masturbation, coitus, coitus interruptus, and contraceptive practices) are debilitating and harmful to the body and brain. 3. Excessive involuntary seminal losses (through nocturnal emissions, diurnal emissions, spermatorrhea, etc.) are debilitating to the nervous system and may cause neurasthenia. 4. Observations of the immediate effects of the sexual orgasm indicate that it temporarily exhausts the nervous system, and when repeated too frequently leads to chronic nerve- weakness (sexual neurasthenia). 5. Continence is beneficial to the brain (for conserved lecithin from retained semen is a true brain food.) Hence some of the greatest intellectual geniuses in ancient and modern times led continent lives. These include Pythagoras, Plato, Aristotle, Leonardo da Vinci, Spinoza, Newton, Kant, Beethoven, Herbert Spencer, etc. 6. Recent physiological evidence, pointing to the fact that the seminal fluid contains substances of great physiological value (such as Poehl's Spermine, which is a nerve-stimulant, lecithin, cholesterin, vitamin E, male sex hormones, etc.) supports the idea that continence is beneficial to health, as do the experiments of Prof. Brown-Sequard on the vitalizing effects of testicular extracts and those of Prof. Steinach on the rejuvenation that follows the enforced conservation of semen through ligature of the efferent testicular duct. 7. Leading physiologists, urologists, genito-urinary specialists, neurologists, psychiatrists, sexologists, gynecologists and endocrinologists endorse the physiological value of continence. Among such authorities are Moll, Kraepelin, Marshall, Lydston, Talmey and others.

Dr. Jacobson sent two hundred letters to professors of physiology, hygiene, venereal diseases, nervous diseases, neurology and psychiatry, inquiring as to their opinions concerning continence. All answers with few exceptions declared continence to be conductive to health. The following were among the answers received.

Kraepelin says that continence is not injurious, and that its advantages in avoiding venereal infection are apparent. Gaertner also does not think that continence is injurious to young men. Gramer writes, "Sexual continence before marriage is not injurious. Finkler answered that sexual continence is not injurious to young men, but, on the contrary, is beneficial to body and mind. Lassar also thinks that sexual continence is not injurious to young men. Seiferts says that his

experience teaches him that continence is not injurious. Gruber says "There is no reason why continence should be injurious." Jurgensen thinks that sexual continence per se is not injurious. Strumpell thinks that continence is indirectly useful in preventing venereal infection, and is not injurious. Hoffman considers sexual continence useful. Strumpell thinks that continence is indirectly useful in preventing venereal infection, and is surely not injurious. Tuczek is of the opinion that continence is beneficial. Prof. von Leyden says that, in his experience, he has never seen injurious consequences from continence. Hein says that in most men sexual continence is not injurious. Prof. von Grutzner writes that in his opinion sexual continence is almost never injurious. Prof. Meschede, during 47 years of psychiatric practice, has never seen a case of insanity caused by sexual continence. Weber writes that that continence is not injurious to young men, but, on the contrary, is useful. Hoche is of the opinion that sexual continence is not injurious to young men and does not lead to masturbation. Neisser writes: "Most of our young men could remain continent much longer than in the case nowadays." Aschffenberg writes: "Even those who are predisposed to nervousness do not suffer any harm from sexual continence if the impression is awakened in them that abstinence can never be injurious." Moll says: "At the present time, most medical men agree that sexual abstinence, in a general way, is not harmful." Hutchinson says: "The belief that the exercise of the sex function is necessary to the health of the male at any age is a pure delusion while before full maturity it is highly injurious."

Among eminent authorities on sex who believe that sexual continence is without harm and beneficial to health are the following: Forel, Moll, Professor Montegazza, Professor Alfred Fournier, Prof. Dubois; professor of neuropathology at Berne; Prof. Furbringer, Loewenfeld, Krafft-Ebing, Prof. Lydston, Ruggles, Prof. Oesterling of Tubingen University, Chassaignac, Professor Beale of the Royal College of London, the eminent gynecologist, Ribbing, the great authority, Acton, the gynecologist, Hegar, the eminent English authority on the physiology of sex, Marshall, Dr. L. Robinowitch, neurologist and psychiatrist, formerly president of the New York Neurological Society, the eminent psychiatrist, Dr. Spitzka, also once president of the New York Neurological Society, the New York gynecologist and sexologist, Dr. B.S. Talmey, Professor Sajous, dean of American endocrinologists; Dr. Bruce of the University of Oklahoma, Professor Brown-Sequard, world-famous physiologist and father of the science of endocrinology, and others.

Professor von Gruber of Munich, an eminent European authority on sex, writing on "The Hygienic Significance of Marriage", says that it is absurd to regard the semen as an injurious secretion like the urine, which requires periodic evacuation, but as vital fluid which is not only reabsorbed during sexual abstention, but this reabsorption appears to have a beneficial effect on the physiological economy, as shown by the large number of intellectual geniuses who have led continent lives. Dr. Bernard S. Talmey, an eminent American gynecologist and authority on sex, expresses a similar opinion, and states that in the absence of sexually exciting stimuli, the semen and spermatozoa are produced in smaller amounts and are completely resorbed through the seminal vesicles, so that continence becomes easy and natural; the conservation of this vital fluid, he claims, is necessary for the attainment of the greatest vigor of body and brain, while its loss is harmful, and a man may live through a lifetime in a state of complete continence, without injury, but only with benefit, as proven in the case of such men as Leonardo da Vinci, Kant, Beethoven, Spencer, etc. Dr. Dubois, the neuropathologist, says that sexual indulgence, not continence, is the cause of neurasthenia, contrary to the erroneous conclusions of the Freudian

school. Professor Alfred Fournier, a physiologist of note, ridicules the idea of "the dangers of continence for the young man", and that during his years of medical practice, he has never come across one such case. Professor Montegazza, on the other hand, praises the benefits of chastity, both upon the body and upon the brain. Dr.John Harvey Kellogg, points to the fact that many of the famous Greek athletes of antiquity (as Astylos, Dopompos and others mentioned by Plato) practiced total continence during their training, which contributed to their extraordinary vigor. Professor Furbringer, a prominent German authority on sex, writes: "Sexual continence is in the unanimous opinion of the medical profession not injurious to health as is generally believed." Writing on "Sexual Hygiene in Married Life", he states that when neurasthenia occurs in an unmarried person it is generally due to masturbation or some other form of lasciviousness. Krafft-Ebing, the great authority on sexual questions, considers the "diseases of abstinence" a myth. The gynecologist, Loewenfeld, considers it possible for a sexually normal individual to live in permanent continence without any ill-effects whatsoever. According to the noted sex physiologist and endocrinologist, Prof. F.G. Lydston of the University of Illinois, "Continence per se, probably never is harmful. The non- elimination of the seminal secretion from the testes often is productive of great bodily and mental vigor." In his opinion, "one may be perfectly healthy and physically vigorous while leading a life of absolute continence." Ruggles writes: "Sexual abstinence is compatible with perfect health and tends to increase vitality through resorption of the semen."

Forel, the eminent Swiss authority on sex, says: "Abstinence, or sexual continence, is by no means impractical for a normal young man of average constitution, assiduous in intellectual and physical work and abstaining from artificial excitants", adding, "The idea is current among young people that abstinence is something abnormal and impossible, and yet the many who observe it prove that chastity can be practiced without prejudice to health". Dr. Perier points out the falsity of the notion of the imaginary dangers of sexual continence, and considers it a "physical, moral and mental safeguard to young men". Rohleder considers as unscrupulous the advice of physicians who recommend sexual intercourse to young men. Chassaignac claims that the healthier the individual, the easier to practice complete abstinence; it is only the diseased and neurotic person who finds it difficult to do so. Professor Oesterling of Tubingen says, "one cannot repeat too often that abstinence and the most absolute purity are perfectly compatible with the laws of physiology and morality, and that sexual indulgence is not more justified by physiology and psychology than by morality and religion. Professor Beale of the Royal College of London says that "sexual abstinence has never yet hurt any man when it has been observed." The gynecologist, Ribbing, says that he has known many young men who have lived in total continence without difficulty or injury. Clarke says that continence increases health and energy, while incontinence does the reverse. According to Surbled, "the evils of incontinence are well known and undisputed; those produced by continence are imaginary." The great authority, Acton, says that the popular idea that abstinence causes the genital organs to atrophy and produces impotence is a grave error. "Chastity no more injures the body than the soul," he says. The gynecologist Hegar, considers the "sexual necessity" myth an illusion, while Ribbing, another eminent gynecologist, points out the needs for sexual control and continence. The noted physiologist, Marshall, in his "Introduction to Sex Physiology", points out the need for such restraint over the reproductive function and the sublimation of sex energy into higher cerebral forms of expression, as was the case with many intellectual geniuses of the past, who led

continent lives. Dr. L. Robinowitch, a prominent American neurologist, says that "sexual continence is not only harmless but beneficial".

American Medicine", in its editorial of July 1, 1905, remarks, "It should be an easy matter to convince any developed man that continence can be a normal state of civilized man." In 1906, the American Medical Association passed a resolution that "continence is not incompatible with health". The International Brussels Congress also declared that a chaste life for a man is not prejudicial to health, but, on the contrary, can be recommended from a purely hygienic standpoint. The congress stated, "It is the consensus of most of the great medical thinkers that it is not prejudicial to the health of a man to keep his body clean". The medical faculty of Christiania University issued the following statement: "The assertion that a chaste life will be prejudicial to health rests, according to our unanimous experience, on no foundation. We have no knowledge of any harm resulting from a pure an moral life".

Convincing evidence of the benefits of continence and that the assumed "sexual necessity" is an illusion is afforded by the study of the debilitating effects of sexual orgasm, which are immediate and striking. Though these have been attributed to purely nervous origin, there can be no doubt that they are chiefly due to the harmful effects of the seminal discharge, which involves a sudden withdrawal from the body of calcium, lecithin and other substances necessary for the normal functioning of the nervous system. Havelock Ellis, in his "Studies in the Psychology of Sex", quotes the observations of Dr.F.B.Robinson on this subject, as recorded in the New York State Medical Journal. He notes that when a stallion cohabits with a mare for the first time, after a short, vigorous coition, he is apt to fall down in a dead faint, which Robinson traces to brain anemia thus produced. He mentions one case of a mare falling dead immediately after. Young bulls frequently faint away after the first connection with a cow, and it is very common to observe a young bull so exhausted that he sneaks off to a quiet corner and lies down for a couple of hours. Fainting, however, does not occur in dogs, for the dog's connection is prolonged and thus shock is avoided; also the dog has no seminal vesicles. In the case of the boar, the orgasm rises to such a pitch that the animal seems on the verge of pain, and is usually exhausted for several hours.

Havelock Ellis writes:

"When we have realized how profound is the organic convulsion involved in [the] process of detumescence, and how great the motor excitement involved, we can understand how it is that very serious effects may follow coitus. Even in animals this is sometimes the case. Young bulls and stallions have fallen into a faint after first congress; boars may be seriously affected in a similar way; mares have been known even to fall dead. In the human species, and especially men, probably, as Bryan Robinson remarks, because women are protected by the greater slowness with which detumescence occurs in them - not only death itself, but innumerable disorders and accident have been known to follow immediately after coitus, these results being mainly due to the vascular and muscular excitement involved in the process of detumescence. Fainting, vomiting, urination, defecation have been noted as occurring in young men after the first coitus. Epilepsy has been not frequently recorded. Lesions of various organs, even rupture of the spleen, have sometimes taken place. In men of mature age, the arteries have at times been unable to resist the high blood-pressure and cerebral hemorrhage with paralysis has occurred. In

elderly men the excitement of intercourse with strange woman has sometimes caused death, and various cases are known of eminent persons who have thus died in the arms of young wives or prostitutes."

The celebrated Russian general, Skobeloff, died while cohabiting with a girl of ill-fame. Robinson refers to the case of a judge who died shortly after connection with a girl in a brothel, and to the case of a man of seventy who died after intercourse with a prostitute. He also mentions the case of a man of 48 years of age who was found dying in a Chicago hotel after cohabiting with an accommodating widow. Also the case of a young man who fainted away at the first coitus, and that of a man sixty years old who had connection with a strange woman and fell dead as he walked to the door immediately after the act. Such deaths usually occur in elder men, and usually as the result of intercourse with strange women, which is more violent and intensive than with their wives. Atilla king of the Huns, died while cohabiting with his young wife.

Acton, the great medical authority, points out that in some persons the termination of the orgasm is accompanied by an epileptiform convulsion of more or less severity. This is succeeded by a great amount of prostration. This is seen in a very exaggerated form in the buck rabbit, which, after each copulation, may be noticed to fall on his side in a sort of epileptic fit, the whites of the eyes being turned up. The animal then gives several spasmodic twitches with its hind legs, and lies panting for several moments until the nervous system recovers itself. Acton mentions cases of deaths occurring in houses of prostitution as well as in the marriage bed as arising from the adverse influence of the sexual orgasm on the nervous system and on the body as a whole, especially in susceptible individuals. Entomological works abound with cases in which death follows copulation. Geddes and Thomson, in their book, "The Evolution of Sex", refer to the fact that some spiders normally die after fertilizing the female, and such sacrifice of the male occurs also in other species. The association of reproduction and death is well known in the case of flying insects, as the common mayflies. Emergence into winged liberty, the love-dance and the process of fertilization, the deposition of eggs and the death of the parents, are often the crowded events of a few hours. "In higher animals", say these authors, "the fatality of the reproductive sacrifice has been greatly lessened, yet death may tragically persist, even in human life, as the direct nemesis of love..... The temporarily exhausting effect of even moderate sexual indulgence is well known, as well as the increased liability to all forms of disease while the individual energies are thus lowered..... Reproduction is the beginning of death."

Some years ago the author received the following interesting letter from a reader of this writings: July 29, 1936 Dear Dr. Siegmeister: I was wondering if the draining, at any time, of the lecithin and phosphorus, and other valuable substances during any sexual act, hindered achievement of the higher intellectuality, and if the brain and body were debilitated? Please answer this very important question. I am having great difficulty to understand how a person as myself, can store up vast amounts of sex forces without expending it. To make a long story short, I do not understand the very function of the sexual apparatus. Please send me any literature that you have on hand, concerning this matter, and I will greatly appreciate it. Also refer me to some excellent books which will cover this subject in full. I beg of you. Do not neglect answering any question asked in this letter. Thank you, ...

To this letter he made the following reply: Dear Mr. L_____: "You ask whether the draining from the body of lecithin and phosphorus through the sexual act will hinder the highest intellectual achievement and debilitate body and brain. Most definitely this is the case. Read my article on "Do Neuroses and Psychoses have a Chemical Origin?" in the June, 1936 issue of The Modern Psychologist, in which I show that the loss of these nerve-and-brain foods through sexual indulgence in any form deprives the nerves and brain of needed nourishment and leads to nervous and mental disorders. Our insane asylums are now overfilled with the victims of thoughtless sexual indulgence which has withdrawn valuable nutrients from the brain and disordered its functioning. These pitiful individuals, when in possession of their normal brain-structure, never realized that with each discharge of seminal fluid, they are pouring forth the very substance of their nerves and brain, until a time is reached when their brain is so sapped of lecithin that it ceases to function. Measurements have shown an actual decrease in the lecithin content of the brains of the insane. This was due to previous sex indulgence, as a result of which the sex glands took up the blood's lecithin to replace expended fluids.

"The greatest intellectual geniuses in both ancient and modern times led continent lives, and there is yet to be recorded one individual who freely expended seminal fluid who ever amounted to anything. In most cases, individuals who have achieved have been forced by necessity to abstain from sexual indulgence, as Cervantes, who wrote Don Quixote while in prison, or Dante who wrote his Divine Comedy while in exile. Milton wrote "Paradise Lost" when blind and when he did not indulge in sex. Sir Isaac Newton, active in intellect until the age of 80, led a continent life from birth, and so did Leonardo da Vinci and Michelangelo, both of whom retained their creative genius [until] an advanced age.

"You also ask how a person like yourself could store up vast amounts of sex force without expending it. To do so is easily accomplished if you try the right methods. In my booklet, 'Diet and Sex' I show how it is possible through a low-protein vegetarian diet to control the sexual impulses and how debilitating nocturnal emissions may be made to cease forever, since involuntary sexual losses are as debilitating as voluntary ones, for the same lecithin and cholesterin are lost. The morning after a nocturnal emission you will notice that the nerves are weakened and the body cannot stand the cold as well.

"You say: `I do not understand the very function of the sexual apparatus.' It has two functions: Internal Secretion, which is primary, and Reproduction, which is secondary. Any other use of these endocrine organs is a perversion which will reap its penalty in the form of nervous disorder and premature old age and death.

"You ask me for good literature on the sex question. Permit me to introduce to you some of the most daring and original writers in this field, Melville Keith, M.D. The following is quoted from his work, "The Marriage Law:"

"`We tell you that at every emission of semen you are losing the food and the best portion of the (blood) corpuscles, inasmuch as every particle of semen which is ejected will be replaced by more taken from the blood. This is enough to convince you that when you are ejecting the semen which should stay in the body and become reabsorbed so as to go and form the oil for the joints,

new muscles, the brain material, as well as every other part of the body, you are really destroying or throwing away your life.

"`You eject the substance of the synovial fluid. You send forth, to gratify a moment's passion, the very material of which the brain is made. This is a fact which you will acknowledge when you consider that all this semen is the material of which all these substances are made and supplied, and when the semen is ejected you have selected the best part of the body to go out and become to you a useless inert mass, which can never be restored to you under any circumstances. It is lost and gone. Then, the semen being out of the body, the sexual penalty comes apace. The penalty for this loss of semen is so far reaching and so concealed from the body of people of the present day that we do not know the exact spot to look for it. But we tell you, when you see paralysis, palsy, apoplexy, rheumatism, brain softening, bent shoulders and haggard face; when you observe a young old man and the dried up young lady, in all of these cases, and in dozens of others, you may set it down that there have been sexual losses and a waste of the bodily substance from the sexual orgasm.

"`You will see this penalty all around you, and there is no place where you may go but you will see the fruits of this sexual indulgence to excess. The penalty may be denied, and all these diseases may be attributed to every other cause under the sun, but you will be right in laying it at the proper place, and that is to the sexual drain which has sapped the blood corpuscles of the victim before you. We assure you nothing can be so very enervating as this sexual excess, and any sexual mating is an excess, providing it is not for the purpose of having children.

"`The penalty for the disobedience of this law is in the shortened lives and the increased amount of disease which are everywhere around us." The resemblance of the sexual orgasm to the epileptic attack has been noted by many authors. The sudden withdrawal of calcium produced by the seminal discharge biochemically produces the tetany-like symptoms of the orgasm, which are so similar to those of the epileptic attack which usually follows it in those who are constitutionally predisposed. According to Acton, the sexual orgasm resembles the epileptic attack both in its phenomena and its effects. The mental hebetude and physical prostration following the discharge of nerve force characteristic of an epileptic attack also follow the sexual orgasm. The latter profoundly affects the whole nervous system with such intensity that Acton says that "it is only mature individuals who can bear even infrequent acts of copulation without more or less injury. In young persons all the vital powers should be conserved for growth and development."

Dr. Deslandes observed that epileptic attacks often follow coitus, as was the case with Napoleon. He says: "There are some individuals who are susceptible to epilepsy that they have a regular attack of it whenever they indulge in sexual intercourse... That individuals subject to epilepsy are likely to have an attack when under the influence of sexual excitement is well known. It is related of the first Napoleon--who, as is well known, was subject to epilepsy--that he experienced a paroxysm every time he attempted copulation."

Menard had a watch-dog which was affected with epilepsy every time he copulated. These attacks were characterized by convulsions and by loss of consciousness. "Coition", said Democritus, "is a kind of epilepsy." "It is", said Haller, "an action very similar to a convulsion,

and which of itself astonishingly weakens and affects the whole nervous system." Tissot reports cases in which emissions of semen were accompanied by "a convulsion, a species of epilepsy; and the same observation furnishes evident proof of influence which these violent actions have on the health of the unfortunate individual in whom they occur. The promptitude with which the weakness follows the act (of coitus)... and the debility of all those affected with convulsive diseases prove that the weakness is produced by the orgasm." Tissot illustrates this point by referring to an Amman of a Swiss village, mentioned by Platerus, who, being remarried when old, and anxious to consumate his nuptials, was affected with a suffocation so violent, that he was obligated to desist. The same thing recurred every time he repeated the act. He consulted a number of quacks; one assured him that after he procured and took several medicines he was no more in danger. He hazarded a new attempt on this advice; and full of confidence, he persevered, only to die in the act in the arms of his wife. Says Tissot: "The violent palpitations which sometimes accompany coition are also a convulsive symptom." Hippocrates speaks of a young man in whom excesses in wine and sexual commerce produced, among other symptoms, constant palpitations; and Daleaus saw one seized in the act with a palpitation so violent that he would have suffocated if he persisted.

Havelock Ellis remarks that the symptoms of coitus bear a strong resemblance to those of epilepsy, and refers to the statement of this effect by the sophist of Abdera, who said that coitus is a slight fit of epilepsy, "judging it to be an incurable disease." Caelius Aurelianus, one of the leading physicians of antiquity, said that "coitus is a brief epilepsy." Fere has pointed out that both these forms of nervous disturbance have similar symptoms. Ellis notes that the epileptic convulsion in some cases involves the sexual mechanism, and that it is noteworthy that epilepsy tends to appear at puberty. Boerhaave has called coitus "a true epilepsy," and later Roubaud, Hammond and Kowalevsky have emphasized the resemblance between coitus and epilepsy. Some authorities have considered coitus as the cause of epilepsy, the sudden withdrawal of calcium from the system through the seminal discharge precipitating the tetany-like symptoms of the epileptic convulsion. Fere has recorded as case of a youth in whom the adoption of the practice of masturbation, several times a day, was followed by epileptic attacks, which ceased when masturbation was discontinued. West describes masturbation in an infant by thigh-rubbing which produced a convulsion that was mistaken by relatives for an epileptic fit. Tissot writes: "We know that paroxysms of epilepsy, when accompanied by an emission of seminal fluid, leave the patient more exhausted, and more confused, than in ordinary cases. Coition is an exciting cause of these fits in those who are subject to them; and Van Swieten attributes the real exhaustion of the patients to this cause if the attacks be frequent."

Dides knew a merchant in Montpelier who never had coitus without having soon after a fit of epilepsy. Van Swieten knew an epileptic person who was attacked with a fit of epilepsy the night he married. Hoffman mentions a very sensual woman who generally had a fit of epilepsy after each coitus. Boerhaave, in his "Treatise on the Diseases of the Nerves," claims that during the sexual orgasm all the nerves are affected, and sometimes so much as to prove fatal. He relates the case of a woman who fell into a very long syncope after every act of coition, and that of a man who died in the first act he engaged in, the force of the convulsion which rendered his whole body stiff, and for twelve years he suffered from this cataleptic condition, with complete loss of sensation and consciousness.

Mercier, an English psychiatrist, in his "Sanity and Insanity," writes that after the act of coitus, the resulting languor and lassitude indicate that a great strain has been placed on the store of energy available to the organism, whose seat is the nervous system, the highest regions of which--the brain--are most powerfully affected, and this tends to produce disorder of this organ. But while, with a normally constituted organism, the stress of the sexual orgasm is not sufficient to produce brain disorder, unless it is repeated with undue frequency, in one whose energies are naturally defective and which is constitutionally below the normal level of stability, the effect of the act will be to produce disturbed cerebral functioning. This is especially true when such indulgence is begun at too early an age. "Hence we find that a certain number of cases of insanity," says Mercier, "are attributed to sexual excess," adding, "The indulgence in this proclivity is a fruitful source of that deterioration of the higher powers of the nervous system which is the foundation of insanity."

According to this eminent English psychiatrist, the sexual orgasm has by its very nature a disintegrative, deteriorating influence on the organism; and the loss of energy it entails, especially when frequently repeated, results in apathy, lethargy and dementia. The tension of energy in the nervous system is thereby reduced to the lowest ebb, and, as a result, the manifestations of this energy are either wanting or are exhibited in a feeble and prefunctory manner. "The condition is one of dementia... there is want of mind, the inability to perform mental operations of even moderate difficulty, the dullness and slowness of feeling, the loss of all the higher emotions and of many of the lower ones also, that characterize dementia." There occurs "a general degradation of conduct, the loss of all the higher attributes of humanity, and the retention of all the lower and more animal characteristics. Such are the results of the indulgence of the sexual passion in great excess. When the indulgence is less excessive, the degradation is less profound, but in every case there is degradation, and in every case the deterioration is of the nature of dementia, that is to say, it is a manifestation of a deficiency in the amount of stored energy."

Besides those cases in which the dementia produced by sexual excess is sufficiently pronounced to incapacitate the wretched individual for the duties of life, and to render it necessary to commit him to asylum care, Mercier mentions that there are an enormous number of individuals, forming a considerable part of the total population, in which premature decadence of mental powers, premature exhaustion of energy and premature senility result from excess sexual indulgence in early life. The young man, full of energy, launches out into sexual excesses which at the time appear to be indulged in with impunity, but sooner or later the day of reckoning comes, and then, says Mercier, "he is in the position of a spendthrift who is living on his capital;" having lavished his sexual capital in his youth, it is exhausted prematurely, so that before middle age he finds himself a sexual beggar.

Professor Lydston mentions cases of apoplexy, paralysis and fatal cardiac conditions occurring in predisposed persons as the result of sexual excess. "From a priori considerations," he writes, "involving the immediate effects of sexual excitement and indulgence upon the brain and spinal cord, we might naturally expect insanity to be a frequent result of masturbation and excessive venery." While the majority of persons are protected against such serious affects upon the cerebrospinal functions by their natural resistance, in those in whom this resistance nervous equilibrium incidental to faulty or imperfect nerve structure, whether due to heredity, congenital

defect or acquired disease, the conditions are different. Under such circumstances, repeated sexual orgasms, according to Prof. Lydston, can procure "actual structural alterations of nerve-fibers and cells and vessals of the brain, with coincident psychopathic phenomena," which "are naturally to be expected as occasional results of these severe and repeated shocks to the susceptible nervous system produced by the sexual orgasms."

"Coition," says Noquez, "is a convulsion; it disposes the nerves to spasmodic actions, which are excited by the slightest cause." "It is", says Haller, "an action very violent, similar to a convulsion, and which of itself astonishingly weakens and affects the brain and nerves." Dr. Ryan writes: "Coition has been compared to a fit of epilepsy, to an electric shock; it entirely engages both mind and body; we neither hear nor see; and some persons have lost their lives in this crisis. It is for this reason that sexual intercourse has proven mortal after severe wounds, hemorrhages, etc., and when too often repeated, weakens the whole economy.

Rouband describes as follows the immediate effects of the sexual orgasm of coitus, which he compares to an epileptic attack:

"The circulation quickens, the arteries beat strongly, the venous blood, arrested by muscular contraction, increases the general heat, and this stagnation, more pronounced in the brain by the contraction of the muscles of the neck and the throwing of the head backward, causes a momentary cerebral congestion, during which intelligence is lost and the faculties abolished. The eyes, violently injected, become haggard, and the look uncertain. Or in the majority of cases the eyes are closed spasmodically to avoid the contact of the light. The respiration is hurried, sometimes interrupted, and may be suspended by the spasmodic contraction of the larynx, and the air, for a time compressed, is at last emitted in broken and meaningly words. The congested nervous centers only communicate confused sensations and volitions; mobility and sensation show extreme disorder; the limbs are seized by convulsions and sometimes by cramps, or are thrown wildly about or become stiff like iron bars. The jaws, tightly pressed, grind the teeth, and in some persons the delirium is carried so far that they bite to bleeding the shoulders their companions have imprudently abandoned to them. This frantic state of epilepsy lasts but a short time, but it suffices to exhaust the forces of the organism, especially in man. It is, I believe, Galen who said, `Omne animal post coitum triste.' (All animals are sad after coitus.)"

Deslandes, who writes:

"During this tumult and after the crisis, the general state of the patient conforms in every manner to that of the genital system. Thus the face reddens, the neck swells, the veins become filled, the skin now burning and now moistened with sweat, the heart beats with rapidity. In fact, there is a state of fever which almost justifies us in placing the act of venery among diseases. At the same time the nervous centers, the cerebrum, the cerebellum and the spinal cord experience a very powerful impression. As the state progresses, consciousness is lost, and the subject is, at it were, in a state of delirium. The will is suspended, and the muscles are not controlled by it, but by the nerve centers which are so much irritated. The trunk and limbs are agitated by involuntary motions and chills. The disturbance increases until the crisis arrives, when the convulsions affect the genital system; a fit of epilepsy as it were ensues; the sight becomes dim; the trunk stiffens

and neck is thrown back; and finally this state might be regarded as a violent access of disease if the beginning and end of it were not known.

"The genital apparatus, lately so full of life, now becomes flaccid; the scrotum becomes loose and pendulent, and a sensation of torpor, of fatigue, of chill follow. The convulsive motions are succeeded by a kind of paralysis, and all attempts at new excitement are in vain... Now, however, the individual is changed; his face lost its color, his limbs are stiff, and without motion as if paralyzed; the head is painful, the mind is slow and limbs are incapable of the least effort. The hearing is dull; the sight is deranged, and the external senses import to the brain only imperfect impressions. The pulsations of the heart are feeble, the pulse is small, the veins are collapsed and the eyelids are livid. The soul is left in a state of languor and sadness and becomes as it were melancholy."

During the sexual orgasm of coitus symptoms occur which border on psychopathology; and there can be little doubt that excessive frequency of such symptoms may indelibly impress themselves on the brain and nervous system. On this point, Deslandes observes: "The diseases affecting the nervous system, that system which is powerfully disturbed by coition, are not the only ones resulting from venereal excess. We shall see that all alterations of tissue, every physical disorder, may be caused by this. We may fearlessly assert that most of the inconveniences and diseases afflicting the human species arise from venereal excesses."

The great philosopher, Herbert Spender, himself a lifelong celibate, describes as follows the effects of sexual excess:

"Chronic derangements of health supervene, diminished bodily activity, decline of mental power, and sometimes even insanity... Specialists, who have good means of judging, agree in the opinion that the aggregate evils arising from excesses of this kind are greater than from those arising from excesses of all kinds put together."

Referring to a case of a man whose three wives all become insane after marriage, referred to in the "Journal of Mental Science", Jan., 1879, Havelock Ellis writes: "In cases of sexual excess, great physical exhaustion, with suspicions and delusions, is often observed. Hutchinson has recorded three cases of temporary blindness, all in men, the result of sexual excess after marriage (Archives of Surgery, Jan., 1893). The old medical authors attributed many evil results to excess in coitus. Thus Schurig brings together cases of insanity, syncope, epilepsy, loss of memory, blindness, baldness, unilateral perspiration and death attributed to this cause; of death many cases are given, some in women."

According to Prof. Lydston, the results of sexual excess are similar to those of masturbation, and both result from the disturbance of blood chemistry and general metabolism caused by the withdrawal from the body of the substances of which the semen is composed: calcium, phosphorus, lecithin, cholesterol, albumen, iron, etc. Though physical impairment, as well as mental impairment, from sexual excess is very common, less attention, has been paid to it than to the evil results of masturbation, in view of the current belief that, unlike masturbation, coitus is harmless under all circumstances. However it is Lydston's opinion that "sexual excess is the most prolific cause of that most civilized and most fashionable of all hydra-headed diseases,

neurasthenia, adding, "Moderation in sexual intercourse is not only conducive to prolonged virility, but to longevity. It is certain that many cases of neurasthenia in both male and female are due to sexual excess."

According to Dr. Black, "Medical writers agree that one of the most common causes of the many forms of derangement to which a woman is subject consists in excessive cohabitation. The diseases known as menorrhagia, leucorrhea, amenorrhea, abortions, prolapsus, chronic inflammations and ulcerations of the womb, and a yet greater variety of sympathetic nervous disorders are some of the distressing forms of these derangements."

After referring to cases of men who died during coitus, Deslandes adds, "Many old men have yielded up their existence in the nuptial bed, when their term of life might have been continued if they had not exhausted their strength in unnatural exertions." Senac attributes to temporary exhaustion of the nervous system the feebleness which follows coition. The increased amount of blood in the brain at this time has several times produced apoplexy. Several such instances have been reported. Hoffman reports the case of a soldier addicted to sexual excess, who finally died in the act, the cerebrum having been found full of blood. "This increase of blood in the brain," says Tissot, "explains why these excesses produce mania. As this quantity of blood oppresses the nerves, it weakens; they are more susceptible of impressions and hence their debility." Tissot describes as follows the effects of sexual excess:

"The debility caused by these excesses derange the functions of all organs... Digestion, perspiration and evacuation do not take place in their usual healthy manner; hence the strength... (illegible portion)... even the understanding are evi... (illegible portion)... diminished; the sight is obscured;... (illegible portion)... of the nerves and all kinds of... (illegible portion)... and rheumatic pains, and astonishing weakness in the back, debility of the genital organs, bloody urine, deranged appetite, headache and numerous other diseases ensue; in a word, nothing shortens life so much as the abuse of sexual pleasures... Excesses in the gratification of sexual desire not only cause the diseases of languor, but sometimes acute diseases; and they always produce irregularities in those affections which depend on other causes, and very readily render them malignant when the energies of nature are at fault."

"Serruier mentions a case of a man who was reduced to a complete state of marasmus in consequence of sexual excesses and nocturnal emissions. Payva, a Portuguese physician, also observed marasmus to result from sexual excess. Surrurier, like Boerhaave, mentions epilepsy, in addition to loss of sight and imbecility in a young soldier, the latter resulting from onanism and nocturnal pollutions. Parise mentions the case of a man who was desirous of living with a young Italian girl whose temperament was extremely ardent. "He paid for his imprudence by blindness, which occurred in 8 days, and which was followed by death."

Cases of individuals dying during coitus occur usually in persons very weak as the result of old age or disease. Fabricus mentions the case of a man who had sex relations on the tenth day after an attack of pleuritis, which had terminated on the seventh with perspiration. He "was seized by an ardent fever, and considerable tremor, and died on the thirteenth day." Chesneau knew two young married persons who were attacked in the first week of marriage" with a violent fever and considerable redness and swelling of the face; one of them had a severe pain in the sacrum; they

both died in a few days." Tissot writes: "Hippocrates has left us in his history of epidemic diseases the case of a young man who after excesses with women and wine was attacked with a fever accompanied with symptoms the most violent and irregular, which finally proved fatal."

Hoffman relates a case of a man convalescing from pleurisy who after indulging in coitus had a relapse more dangerous than the original illness. Fabricus relates another case of a young man whose leg was amputated, and whose physician forbade having any intercourse with his wife, who was also informed of the danger. The young man disobeyed orders and became gravely ill.

Dr. Talmey states that the frequent exercise of the act of copulation leads directly to anemia, malnutrition, asthenia of the muscles and nerves, and to mental exhaustion. Persons addicted to sexual excess may be recognized by their pale, long, flabby faces, which often have tense features. They are melancholic and usually not fit for any difficult or long continued physical or mental work. They have little power of resistance. The ill health of many women after a certain period of married life has the same cause.

Professor von Gruber, while doubting the allegation that sexual abstinence may prove harmful to the nervous system, is convinced that sexual excess certainly is. He believes that frequent discharges of semen lead to a "reduction of the peculiar internal secretion of the testes," which is otherwise resorbed into the blood-stream. The immediate effects of sexual excess, he states, are depression, fatigue and exhaustion. As further symptoms there is pressure in the lumbar region, nervous irritability, a feeling of pressure in the head, stupidity, insomnia, ringing in the ears, spots before the eyes, shunning of light, a feeble trembling and actual shaking, pounding of the heart, tendency to sweating and muscular weakness. There is also weakness of memory, neurasthenia, melancholic depression and disinclination to physical or mental effort. The digestive activity becomes less efficient and food is less well utilized. There is a deficiency in blood and a lowered resistance to infectious bacteria, the tubercle bacillus in particular, for which reason sexual excess is known to predispose to consumption aside from its tendency to drain the body of calcium. There is irritable weakness of the genitals, premature ejaculation, frequent nocturnal emissions, and increasing impotence. The more frequent nocturnal emissions that result increase the nervous irritability and exhaustion (i.e., neurasthenia). All these effects are more marked in the young and the aged; in the former, sexual excess, by its detrimental influence on metabolism and the process of growth, stunts physical and mental development, while in the aged it hastens death, often by causing heart failure.

By producing enervation and by exciting the nervous system, Dr. Shelton claims that sexual excess can further the development of any disease to which the individual is subject. For this reason a person predisposed to epilepsy is almost certain to have an attack after each sexual act. Some cases of epilepsy do not develop until after marriage for this reason. Asthmatic attacks and St. Vitus's dance are often brought on and perpetuated by sexual excess. Spinal and heart disorders are apt to occur. There is an increase of blood-pressure, which predisposes to apoplexy. Dr. Shelton writes:

"No function is so exhausting to the whole system as this. If excessively indulged in, no practice can possibly be so enervating. J. Bradford Sax probably over estimates the amount of energy consumed in coition when he says, "Probably more of the nervous fluid or influence is expended

in a single sexual crisis than would suffice to carry on all the vital operations, perhaps for a day. At any rate the energy expended is very considerable and if the act is indulged in daily, or even weekly, the indulgent individual need not hope for health and strength.

"What constitutes excess? The reply has been given: Anything is excess when procreation is not the end. Man is sexually perverted. He is the only animal that has his `social problem,' the only animal that supports prostitution, the only animal that practices self-abuse, the only animal that is demoralized by all forms of sexual perversions, the only animal whose male will attack the females, the only animal where the desire of the female is not the law, the only one that does not exercise his sexual powers in harmony with their primitive constitution."

"Who can say," interrogates Dr. Dixon, "that these excesses are not often followed by direful diseases, insanity and consumption? The records of our madhouses, and the melancholy deaths by consumption, of the newly married, bear ample witness to the truth of this assertion. Are they not transmitted to posterity? Look at the frequent mental imbecility, and the pallid hue, and attenuated form of the children who are the earlier products of marriage, and see the parents vibrating between life and the grave, until the candid physician, or the terrors of death teach them to abstain."

Of all members of the mammalian family, civilized man alone is a victim of an exaggerated and morbid sexual urge, a condition which he has inflicted, to a certain extent, on the animals which he has domesticated and which have adopted his diet, especially the dog. Wild animals in a state of nature practice copulation only at certain mating seasons for the purpose of reproduction. Civilized man practices this act at all times, and in most cases without intention to conceive. On the other hand, so-called savages and primitive races leading more natural lives and who follow their natural instincts to a greater extent are far chaste in their sexual behavior, as noted by Havelock Ellis. Such considerations must lead one to the conclusion that the sex life of civilized men is unnatural and that the excessive manifestation of the sex urge among them is due to certain aphrodisiacal stimuli rather than to natural instinct; among such stimuli are a high-protein meat diet (accompanied by physical inactivity), the use of tobacco, alcohol and coffee, sexually stimulating literature, dramas, motion pictures, conversation, etc. For these reasons civilized man has departed from the natural law, obeyed by animal and primitive races, which requires the separation of the sexes during pregnancy and lactation, for the benefit of both mother and child. Violation of this law may account for the large number of physically and mentally defective offspring produced by civilized races as compared with animals and primitive peoples.

Among the Andamenese, Portman says that sex desire is moderate in males, it does not appear before the age of eighteen, and is rarely gratified until marriage when a man is 26. According to Haydes and Deniker, among the Fuegians, both men and women are extremely moderate in sexual indulgence. In the case of the Esquimaux, Cook notes that the sexual passions do not manifest during the long darkness of winter, and the menstrual function does not either; the majority of the children are born nine months after the appearance of the sun. On the basis of such observation Havelock Ellis concludes that the sex instinct of primitive peoples is less intense and manifests more infrequently than that of civilized man; moreover it tends to manifest at certain mating seasons and to find expression chiefly in reproduction.

Animals, like men, become perverted sexually and victims of an exaggerated sexual urge when they are subjected to artificial feeding and confinement. Thus apes, when confined to a cage and fed on meat and other sexually stimulating food, while previously gentle and tame on a fruit diet, become extremely licentious and vicious. Then they masturbate excessively and have intercourse daily, while the female consequently menstruates as freely as a woman. (Other female mammals leading more natural lives do not menstruate, though under domestication and excessive feeding, cows and other species do.)

Holder finds that the Indians of America were originally far less salacious than either the white or the negro races that later came to this continent. Dr. Beard notes that Indian boys do not masturbate and young men remain chaste until marriage, conditions which we do not find among so-called civilized races. Spencer, who studied California Indians, remarks that after the appearance of menstruation, a girl is never allowed in the company of the opposite sex until her marriage, and that during pregnancy and lactation there is strict chastity. Nor is coitus permitted after feasts of meat, when there is a state of sexual super-excitation. Ordinarily the men and boys sleep in a separate dormitory. Spencer remarks that an intelligent Indian of his acquaintance on his death-bed confessed a sin that had grievously burdened his conscience. "He had cohabited with his wife after a big dinner of fresh beef, and felt the remorse of unpardoned guilt upon his soul."

Chastity before marriage is the rule in many parts of Africa. In some parts of West Africa a girl guilty of unchastity is severely punished. Among the Ba Henda of North Transvaal, no sexual intercourse before marriage is allowed, and if it is seen that a girl's labia are apart when she sits down on a stone she in punished as guilty of having had intercourse. Among the Syntengs, the husband does not live in the same house with his wife, but only visits her occasionally in her mother's house where she continues to live. Smyth remarks that promiscuous intercourse between the sexes is not practiced by the Australian aborigines, and their laws on the subject are strict. No conversation is permitted between single men and girls or married women. Infractions of these laws are sometimes punished by death. Among the Seri, the young man is compelled to pass a probationary period of continence for one year prior to marriage as a test of his ability of sexual self-control. Among the Pueblos, the morals of the young are supervised by a secret police which reports all irregularities, in which case the young man and girl are compelled to marry. In Uganda, continence is practiced for two years after childbirth, and among the Fijians, husband and wife live apart three or four years, so that no other babe may interfere with the time thought necessary for nursing children. Concerning the people of the Malay Peninsula, Stevens writes: "The sexual impulse among the Belendas is developed to a slight extent; they are not sexual... There is little or no love-play in sexual relations." Among the Malays, strict chastity is maintained during war time. According to Havelock Ellis, the negro races of Africa are less lascivious than white men. He writes: "Among the Cambodians, strict chastity seems to prevail, and if we cross the Himalayas to the north we find ourselves among wild peoples to whom sexual license was unknown. Thus, among the Turcomians, even a few days after the marriage has been celebrated, the couple are separated for an entire year."

Westmarck states that the more that civilization advances the greater the number of illegitimate births and the greater the prevalence of prostitution. These are greater in towns than in the country. He claims that promiscuity is not the original and natural state of man, but is a product

of civilization, or rather pseudo-civilization. The customs of primitive races are comparatively chaste. Westermarck writes:

"Among a great number of simple peoples, monogamy requires of a man continence for periods of considerable length. He has to abstain from his wife not only for a certain time each month, but during pregnancy or at least during the later stage of it, since pregnant woman is regarded as unclean, and after childbirth until the child is weaned; and the latter injection is the more severe as the suckling time lasts for two or three and occasionally even five or six years."

The ancient Spartans represent a race in which a high level of sex morality existed, and who were noted for their chastity. The sexes lived apart, even after marriage, the men sleeping together in one dormitory and the women in another. After the act of conception, which followed marriage, Plutarch, in his life of Lycurgus, states that the man "modestly retired to his companions, and reposing with them at night, nor even visiting his bride but with great caution and apprehension of being discovered by the rest of the family. Some of them even had children before they had an interview with their wives in the day time. This kind of commerce not only exercised their temperance and chastity, but kept their bodies fruitful, and the first ardor of their love free and unabated; for they were not satiated like those that are always with their wives."

To achieve the chastity which he considered essential for the preservation of the vigor of the Spartan race, Lycurgus, the law-giver of Sparta, forbade the consumption of meats and other stimulating foods, and enforced a vegetarian diet. Alcoholics were also prohibited. He forbade eating at home, and had the Spartans eat at collective public tables; and by thus controlling their diet, he was able to control their morality. He forbade his people "to call in the assistance of butchers and cooks, or to fatten like voracious animals in private. For so not only their manners would be corrupted but their bodies disordered, and abandoned to all manner of sensuality and dissoluteness; and they would require long hours of sleep."

In Sparta, a matriarchate in which women had great power, the boys were brought up to be chaste. Xenophon tells us that it is easier to make a pillar of stone or a marble statue move its eyes than a Spartan boy. The boys, he said, were more bashful than the girls. A woman of another country said to a Spartan woman, "You of Lacedoemon are the only women in the world that rue the men." She answered, "We are the only women that bring forth men." The bravery and physical perfection of the Spartan race made them famous throughout the ages.

A BIOCHEMICAL THEORY OF NEUROSES AND PSYCHOSES

It is the purpose of this chapter to present the basis for a new biochemical understanding of the origin and treatment of neuroses and psychoses, based on new knowledge of the chemical effects of the secretions of the sex glands, both internal and external, upon the central nervous system.

The eminent physiologist, Prof. Eugen Steinach has performed experiments which definitely showed that the internal secretions of the sex glands, after being resorbed into the circulation, pass principally to the brain and spinal cord, wherein they are stored. Steinach's experiments consisted in injecting into a series of castrated frogs extracts of the brain and spinal cord of frogs in heat, and into a second series of castrates extracts of the brain and spinal cord of similar

castrates were injected. In the first series a good clasp reflex appeared, while in the second series no changes were visible. Steinach also found that injections of other organs of frogs in heat were unable to evoke the clasp reflex in the castrate. He therefore concluded that the primary action of the internal secretion of the sex glands, after passing into the blood, is upon the central nervous system, through the medium of which, probably by producing local changes in blood supply, effects are produced in various parts of the body.

The physiologist, Nussbaum, conducted similar experiments, on the basis of which he concluded that "the internal secretion of the testicle acts in a specific manner only on certain nervous centers from which impulses are sent to certain organs, and the metabolism of the latter is changed in a given direction." He observed that at the approach of the breeding season in the male frog, there appeared a thickened pad of skin on the first digit of each fore-limb associated with an increased muscular development of the forearm. This modification is used in the act of copulation. If the male frog is castrated, the pad is not formed and the muscle fails to develop. Nussbaum then noted that if pieces of testis from another frog are grafted into the dorsal lymph sac of a frog previously castrated, the secondary sexual characters of the latter developed just as in a normal frog. He also found that if the nerves supplying the first digit were severed, the pad did not develop, and if the nerves supplying the clasping muscles of the fore-arm were severed, the enlargement did not occur. He concluded that the internal secretion of the testis had a specific action on certain local groups of ganglion cells, and that the influence of the testis on the metabolism of different tissues is intermediated through the nervous system.

In the light of these and other physiological experiments, the fact is well established that the action of the secretions produced by the sex glands and resorbed into the blood-stream is primarily on the brain and spinal cord. The eminent authority, Professor Thorek, in his work, "The Human Testis," writes as follows on this subject: "The gonad elaborates through its internal secretions the chemical products which are taken up by the circulation and carried to the central nervous system, and there erotization results. That these substances of internal secretion have a selective action seems probable, and that such substances are stored in the central nervous system, seems, in view of recent experiments, quite certain... O'Malleey thinks that the direct action of the chemical products of the gonads through the nervous system influences the growth and increased metabolism of every tissue of the body. That there is a direct relationship between the gonads and the hypophysis is fairly well established... Since the time of Hippocrates and Aristotle, it has been believed that there was a coordination between the testicular fluid and the nervous system, brain and cord."

There exists considerable evidence from the field of psychiatry to indicate a definite relationship between the sex glands and the brain, and that the degeneration of the latter organ is usually accompanied by a degeneration of the former. Sir Frederick Mott found that the testicles in 27 cases of dementia praecox show atrophy of the seminiferous tubules and absence of spermatogenesis. The similarity between the state of the testicles and that of the brain suggests that this disease might result from a premature atrophy of the gonads, commencing at puberty or early adolescence and becoming more marked until it culminates in impotency accompanied by cerebral involution. In this connection it should be noted that the majority of these insane subjects studied by Mott were habitual masturbators, which practice should have a relation to their testicular degeneration, which Mott considers the primary cause of their brain involution

and degeneration. Mott's observations were confirmed by Obregia, Parhon and Urechia(?) who also found degeneration of the seminiferous tubules and absence of spermatogenesis in dementia praecox. These investigators conclude that spermatozoa may have an internal function that is necessary for the normal metabolism of the brain, and that dementia praecox may be due to an alteration or deficiency of their production due to degeneration of the seminiferous tubules of auto-intoxication.

That the latter may result from masturbation and sexual excess in causing a chemical withdrawal from the circulation of lecithin, cholesterin and phosphorus compounds necessary for the nutrition of the brain (all of which substances are especially abundant in the semen), is indicated by the studies of the eminent American neurologist and psychiatrist, Dr. E.C. Spitzka, a celebrated brain anatomist who was formerly president of the New York Neurological Society. In his psychiatric textbook, "Insanity, Its Classification, Diagnosis and Treatment," Dr.Spitzka writes:

"That a connection between the development of the mind and the male genitals exists is indisputable. Even if we assume that the defective development of the genital system found in brain monstrosities, idiots, imbeciles, original monomaniacs and the periodically insane is an accidental accompaniment of the neural maldevelopment, we must admit the convincing proof that the early extirpation of the testicles, as in eunuchs and castrated animals, exerts and influence on the mental complexion and development.

"The functional abuse of the male sexual apparatus is of more general importance to the alienist than its organic affections. Excessive venery and masturbation have from time immemorial been supposed to exert a deleterious influence on the nervous system, and may provoke insanity, partly through their weakening effect on the general nutrition. That there is a close connection between pathological nervous states and the sexual function is exemplified in the satryriasis of mania and in the early stages of paretic dementia, as well as in the sexual delusions of manomania, and abnormal genital sensations of that condition. In the former case the sexual exaltation is a result, in the latter the genital sensations are collateral phenomena of the psychosis, but there are certain cases in which, while an original predisposition may have existed, masturbation is the factor responsible for the production of insanity."

In his "Masturbatic Insanity," Dr. Spitzka presents a study of twelve cases of insanity, all of which he attributes to masturbation. He claims that the occurrence of psychoses as the result of masturbation is primarily due to arrested brain nutrition. This results from the withdrawal from the circulation of brain-nourishing lecithin and other phosphorus compounds through excessive seminal discharges. For we must remember that lecithin is a chief constituent of the myelin sheaths of nerve- cells and essential for their activity, during which it is consumed--for it is the nerve-oil that keeps the fire of nerve and brain activity burning. Since lecithin is also a principal constituent of the semen, we can readily understand why excessive sexual activity should lead to lecithin deficiency and undernutrition of nerve and brain cells.

While a generation and diminished size of the testicles have been found to accompany the involution of the brain in dementia praecox and other psychoses, and excessive development of the testes had been found to be associated with mental precocity. Professors Morro of Turin and

Snochi of Genoa came across a child of nine who had three testicles and whose intelligence was far above that which is considered normal at its age. The parents, alarmed by the unusual characteristics of the child, had the extra testicle removed. Some months later the child's intellectual development underwent a regression, which brought it down to the mental level corresponding to its age.

In this connection, it is interesting to note that in contrast with the lasciviousness of idiots and the insane, which, according to Dr. Spitzka, is largely responsible for their arrested brain nutrition and development, most of the greatest mental geniuses in history led strictly continent lives (which should result in superior brain nutrition from the conservation of lecithin and other brain-nourishing seminal constituents). Thus among philosophers we have Pythagoras, Plato, Aristotle, Porphyry, Proclus, Leibniz, Berkeley, Locke, Spinoza, Kant and Spencer; among artists, Leonardo da Vinci, Michael Angelo, Raphael and Fra Angelica; among composers, Handel and Beethoven; and among scientists Newton. We have just seen how profoundly the sex glands influence the brain. Their influence on the nerves, however, is more immediate and profound. Deficiency of lecithin, present in the myelin sheaths of the nerves and necessary for their nourishment and the generation of their vitality, as the result of external discharge through the semen (which is very rich in this substance), provides a biochemical explanation of the etiology of neurasthenia, and indicates the proper method of therapy for this common malady. This fact has been suspected by Dr. Beard, originator of the term, "neurasthenia," who, in the latter part of the nineteenth century, first studied this ailment, subsequently known as the "American disease."

In his work, "Sexual Neurasthenia," Beard first called attention to the fact that though other factors may promote it, neurasthenia has a sexual origin, the weakened condition of the nerves being intimately related to the sexual life of the individual. He came to the conclusion that neurasthenia has its origin in abnormal functioning of the sexual organs by the observation that in patients who came to him with functional nervous diseases, examination invariably showed that there was a condition of inflammation of the prostatic urethra. He wrote: "In men, as in women, a large group of nervous symptoms, which are very common indeed, would not exist but for morbid states in the reproductive system... A morbid state of this part of the body is both an effect and a cause of nervous exhaustion."

Beard then proceeded to determine what caused this morbid condition in the reproductive organs (inflammation of the prostatic urethra), which he considered the predisposing cause of neurasthenia. A study of the symtomatology of spermatorrhea, a disease characterized by an involuntary loss of sexual secretions (in the urine, after defecation, or at other times), led him to a solution of this problem. Beard noted that spermatorrhea was a frequent symptom of all kinds of neurasthenic as well as other debilitating diseases, and that there was a direct relationship between the amount of seminal fluid discharged and the intensity of the nervous symptoms. He also found that frequent nocturnal emissions likewise led to neurasthenic symptoms. "Seminal emissions," he concluded, are frequently the cause of nervous and other diseases." In spite of their universality (among civilized males, but not among animals), Beard believed that nocturnal emissions are pathological; and like spermatorrhea, a related condition of seminal emission, they are suscepstantially cured, he stated. This, he claimed, by the conservation of nerve- nourishing seminal constituents that results, would markedly reduce the nervous symptoms thus produced.

As the result of his observations, Beard came to the conclusion that neurasthenia is a direct effect of the withdrawal from the blood of certain chemical substances needed for the nutrition of nervous tissue, which results from seminal discharges; and that the loss of considerable quantities of seminal fluid, involuntarily or voluntarily, leads to undernourishment of the cells of the central nervous system, causing them to be weakened and exhausted. He also pointed out that this condition is usually associated with an inflammatory state of the prostatic urethra "which is so often the source whence all these difficulties originate, and by which they are maintained." The prostatic urethra, he claimed, is the most important center of reflex irritation of the body, a morbid state of which is both an effect and cause of nervous exhaustion.

The next question that arises is: What is the cause of this congested and inflammatory condition of the prostatic urethra, which predisposes the individual to spermatorrhea and neurasthenia. This, Beard claims, is primarily a result of sexual indulgence, especially involving the practices of contraception and coitus interruptus. Neurasthenic symptoms also follow involuntary seminal emissions by night or day, whether they assume the form of excessive nocturnal emissions, diurnal emissions or true spermatorrhea. "There is quite a long series of diseases, symptoms and hygienic problems involved in the relation of the genital function to the nervous system," he concluded.

There appears to be a definite relation between disturbed functioning of the prostate gland and neurasthenia. In view of the fact that the prostatic secretion was found by Stern to contain "abundant amounts" of lecithin, which is an important constituent of nervous tissue, we can readily understand why the loss of prostatic secretion, a constituent of the semen, should tend to cause undernutrition of nerve-cells by depriving them of lecithin, and thus bring about chronic undernourishment of the nervous system, manifesting in neurasthenia. For this reason, lecithin preparations have been used for years by European physicians for the cure of neurasthenia, and with marked success. But there is no sense in administering lecithin externally if the organism is losing its own physiological lecithin through seminal discharges, the dietary prevention of which should be the first step in the treatment of neurasthenia.

Concerning the relation between the prostate gland and neurasthenia, Dr. F. G. Lydston, professor of diseases of the genito-urinary organs and syphilology at the Medical School of the University of Illinois, says:

"Considering the abundant sensory and sympathetic nerve supply of the prostate and its intimate relation to the sympathetic nervous system in general, the frequency with which nervous symptoms develop in patients suffering from prostatic disease is not remarkable... Disturbed prostate may lead to the male equivalent of hysteria, to melancholia, headache and depression... It is the author's belief that the prostate secretes a hormone, the perversion of which, conjoined with the absorption of infection toxins, often has much to do with the etiology of sexual neurasthenia."

In his book, "Psychopathia Sexualis," Kraft-Ebing mentions a number of cases of neurasthenia caused by masturbation and sexual excess. In all these cases, the nervous derangement, which was often the starting-point of a mental derangement, had one primary cause: loss of prostatic and other seminal constituents through orgasms or involuntary seminal emissions. He considers

sexual neurasthenia to commence, as a local neurosis of the genitalia, accompanied by frequent seminal emissions, and to progressively develop into a neurosis of the lumbar cord, accompanied by frequent nocturnal emissions, diurnal emissions and impairment of sexual vigor.